

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

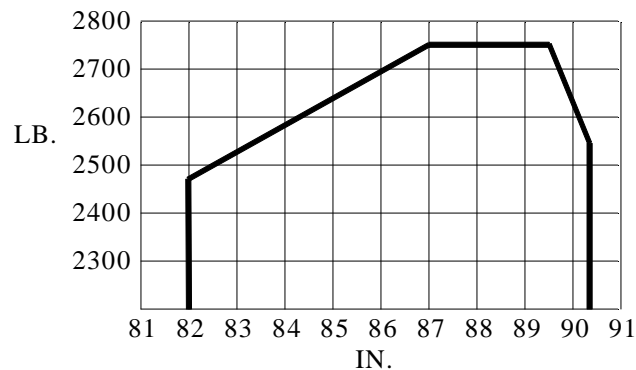
	5A3
	Revision 25
	BEECH
45	(YT-34)
A45	(T-34A, B-45)
D45	(T-34B)
	April 15, 1996

AIRCRAFT SPECIFICATION NO. 5A3

Manufacturer	Raytheon Aircraft Company 9709 E. Central Wichita, KS 67201
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**I. Model 45 (Military YT-34), 2 PCLM (Acrobatic Category), approved July 17, 1950**

Engine	Continental E-225-8	
Fuel	80 minimum octane aviation gasoline	
Engine limits	Takeoff (one minute)	2600 rpm (220 hp)
	For all other operations	2450 rpm (205 hp)
Airspeed limits	Maneuvering	171 mph (148 knots) True Ind.
	Maximum structural cruising	175 mph (152 knots) True Ind.
	Never exceed	252 mph (219 knots) True Ind.
	Flaps extended	125 mph (109 knots) True Ind.
	Landing gear extended	125 mph (109 knots) True Ind.
C.G. range (landing gear extended)	(+87.0) to (+89.5) at 2750 lbs. (+83.2) to (+90.3) at 2540 lbs. (+82.0) to (+90.3) at 2475 lbs. or less Straight line variation between points given. Landing gear retraction moment +610 in.-lb.	



Empty weight C.G. Range	None
Maximum weight	2750 lbs.
Number of seats	2 (1 at +84, 1 at +135)
Maximum baggage	100 lb. (+162)

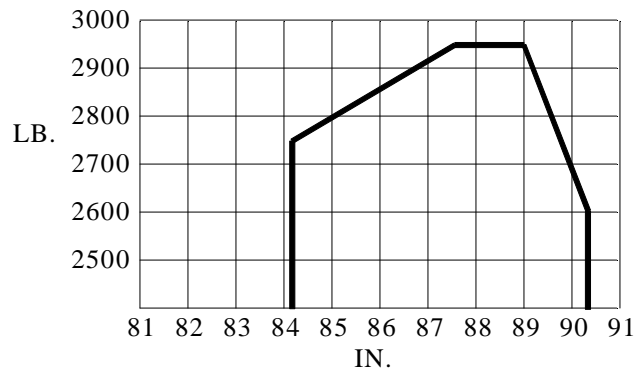
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**I. Model 45 (Military YT-34), 2 PCLM (Acrobatic Category)** (cont'd)

Fuel capacity	44 gal. (two 22 gal. wing tanks at +80) <i>See Note 1 for unusable fuel.</i>		
Oil capacity	12 qt. (+46) for O-470-13 or O-470-13A engine 10 qt. (+26) for IO-470-N engine (Kit 45-9002) <i>See Note 1 for undrainable oil.</i>		
Control surface movements	Wing flaps	Down	30°
	Aileron tab	Fixed	
	Aileron	Up 20°	Down 20°
	Elevator tab	Up 10°	Down 20°
	Elevator	Up 25°	Down 15°
	Rudder tab	Right 15°	Left 15°
	Rudder	Right 30°	Left 30°
	Rudder anti-servo 1/2° for 1° rudder movement		
Serial nos. eligible	G-3 through G-6		
Required equipment	Items 1(a), 101(a) and (b), 102, 105(a), 201(a), 202, 205, 206, 301(a), 302(a), 303(a), 304(a), 401(a), 402(a), 601		

**II. Model A45 (Military T-34A, B-45), 2 PCLM (Acrobatic Category), approved September 21, 1953**

Engine	Continental O-470-13, O-470-13A, or IO-470-N (see Item 107(a))		
Fuel	80 minimum octane aviation gasoline for O-470-13 and O-470-13A engine 100/130 minimum octane for IO-470-N engine (kit 45-9002)		
Engine limits	For all operations	O-470-13 or O-470-13A IO-470--N (Kit 45-9002)	2600 rpm (225 hp) 2625 rpm (260 hp)
Airspeed limits	Maneuvering	171 mph (148 knots) True Ind.	
	Maximum structural cruising	175 mph (152 knots) True Ind.	
	Never exceed	252 mph (219 knots) True Ind.	
	Flaps extended	125 mph (109 knots) True Ind.	
	Landing gear extended	125 mph (109 knots) True Ind.	
C.G. Range (landing gear extended)	(+87.6) to (+89.0) at 2950 lb.		
	(+84.1) to (+89.8) at 2750 lb.		
	(+84.1) to (+90.3) at 2600 lb.		
	Straight line variation between points given.		
	Landing gear retraction moment +600 in.-lb.		



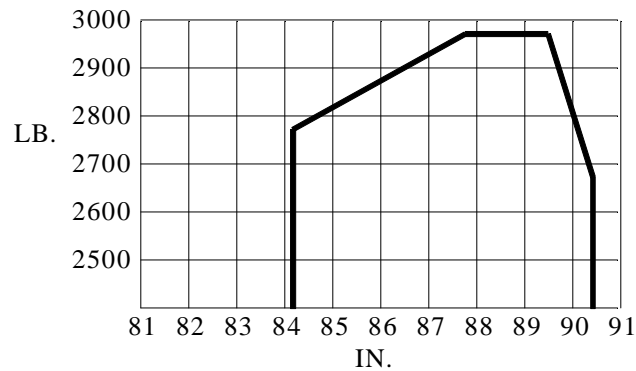
Empty weight C.G. range      None

**II. Model A45 (Military T-34A, B-45), 2 PCLM (Acrobatic Category)** (cont'd)

Maximum weight	2950 lbs.		
Number of seats	2 (1 at +84, 1 at +135)		
Maximum baggage	100 lb. (+162)		
Fuel capacity	44 gal. (two 22 gal. wing tanks at +80) <i>See Note 1 for unusable fuel.</i>		
Oil capacity	12 qt. (+46) for O-470-13 or O-470-13A engine 10 qt. (+25) for IO-470-N engine (kit 45-9002) <i>See Note 1 for undrainable oil.</i>		
Control surface movements	Wing flaps		Down 30°
	Aileron tab	Up 10°	Down 10°
	Aileron	Up 20°	Down 20°
	Aileron servo 1/2° for 1° aileron movement		
	Elevator tab	Up 10°	Down 20°
	Elevator	Up 20°	Down 15°
	Rudder tab	Right 15°	Left 15°
	Rudder	Right 25°	Left 25°
	Rudder anti-servo 1/2° for 1° rudder movement		
Serial numbers eligible	G-7 and up, CG-1 and up; see Note 3.		
Required equipment	Items 2, 102, 104(b), 105(b), 106(a) and (b), 201(b) or c), 202, 205, 206, 301(b), 302(b), 303(b), 304(b), 305 or 402(b), 401(b), 601.		

**III. Model D45 (Military T-34B), 2 PCLM (Utility Category), approved March 9, 1960**

Engine	Continental O-470-4		
Fuel	80 minimum octane aviation gasoline		
Engine limits	For all operations	2600 rpm (225 hp)	
Airspeed limits	Maneuvering	171 mph (148 knots)	True Ind.
	Maximum structural cruising	175 mph (152 knots)	True Ind.
	Never exceed	252 mph (219 knots)	True Ind.
	Flaps extended	125 mph (109 knots)	True Ind.
	Landing gear extended	125 mph (109 knots)	True Ind.
C.G. range (landing gear extended)	(+87.8) to (+89.5) at 2985 lbs.		
	(+84.1) to (+90.0) at 2775 lbs.		
	(+84.1) to (+90.3) at 2675 lbs.		
	Straight line variation between points given.		
	Landing gear retraction moment +600 in.-lb.		

**III. Model D45 (Military T-34B), 2 PCLM (Utility Category)** (cont'd)

Empty weight C.G. range	None
Maximum weight	2985 lbs.
Number of seats	2 (at +87, 1 at +138)
Maximum baggage	100 lb. (+162)
Fuel capacity	50 gal. (two 25 gal. wing tanks at +80) <i>See Note 1 for unusable fuel.</i>
Oil capacity	12 qt. (+46) <i>See Note 1 for data on unusable oil.</i>
Control surface movements	<div>Wing flaps</div> <div>Down 30°</div> <div>Aileron tab Up 10° Down 10°</div> <div>Aileron Up 20° Down 20°</div> <div>Aileron servo 1/2° for 1° aileron movement</div> <div>Elevator tab Up 10° Down 20°</div> <div>Elevator Up 20° Down 15°</div> <div>Rudder tab Right 15° Left 15°</div> <div>Rudder Right 29° Left 25°</div> <div>Rudder anti-servo 1/2° for 1° rudder movement</div>
Serial numbers eligible	BG-1 and up. Prior to civil certification of T-34B airplanes which have been operated by the military, they must be modified in accordance with Beech Dwg. 45-000060 (Kit No. 45-326).
Required equipment	Items 2, 102, 104(b), 105(b), 106(a) and (c), 201(b) or (c), 202, 205, 206, 301(c), 302(b), 303(b), 304(b), 305, 401(c), 601.

**Specifications Pertinent to all Models**

Datum	88.1 in. forward of jack pads on front spar.
Leveling means	Two screws in bulkhead aft of baggage door. Plumb bob is used to level.
Certification basis	Model 45 - Part 03 of the Civil Air Regulations as amended to November 1, 1949, no amendments.  Model A45 (T34A), B45, and D45 - Part 03 of the Civil Air Regulations as amended to November 1, 1949, including Amendments 3-1, 3-2, and 3-3.

Application for Type Certificate dated June 17, 1948.

Type Certificate No. 5A3 issued July 17, 1950, obtained by the manufacturer under delegation option procedures.

Production basis

Production Certificate No. 8. Delegation option manufacturer No. CE-2 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

Propeller and Propeller Accessories (excepting Deicing Equipment)

1. Beech constant speed propeller (Model 45)
  - (a) Hub B200-119, blades B200-244-88 56 lb. (+ 2)  
 (For interchangeable blade models see Prop. Spec. P-867, Note 6)  
 Diameter: not over 88 in., not under 86-1/4 in.  
 Pitch settings at 33 in. sta.: low 10°, high not under 31°
  - or (b) Hub 215-111, blades 215-207-88 67 lb. (+ 2)  
 Diameter: not over or under 88 in.  
 Pitch settings at 33 in. sta.: low 13°, high not under 34°
  - (c) Propeller governor Flight Research 31A-45 7 lb. (+55)
  - (d) Pitch control motor installation 5 lb. (+ 8)
  - (e) Propeller spinner Beech 35-900026 3 lb. (+ 0)
2. Beech constant speed propeller (Models A45, D45)
  - (a) Hub 278-100-1, blades 278-207-88 or 278-208-84 69 lb. (+ 2)  
 Diameter: not over 88 in., not under 82 in. for 278-207-88  
 not over 84 in., not under 82 in. for 278-208-84  
 Pitch settings at 33 in. sta.:  
     low 11-1/2°, high not under 30° for 278-207-88  
     low 12-1/2°, high not under 30° for 278-208-84
  - (b) Woodward propeller governor 210060 3 lb. (+40)
3. Hartzell constant speed propeller installation (A-45, T-34A, B-45)  
 (installed per Beech Kit 45-9002)
  - (a) Hartzell BHC-L2YF-4F/FC8468 AR (Use actual weight change)  
 Diameter: 84 in., not over or under 84 in.  
 Pitch setting at 30 in. sta.:  
     Low 13.5° ± 1.0°  
     High 30.0° ± 1.0°
  - (b) Hartzell A2297P spinner assembly (Use actual weight change)
  - (c) Woodward Governor B216688 (Use actual weight change)

Engine and Engine Accessories - Fuel and Oil Systems

101. Fuel pump (Model 45)
  - (a) Engine driven, Thompson TF-1100-2 1 lb. (+40)
  - and (b) Electric fuel booster, Thompson TF-36700-1 3 lb. (+80)
102. Carburetor air cleaner 1 lb. (+11)
103. Vacuum pump, AN6111-1 or ARO A-505-CDD (Model 45) 6 lb. (+41)
104. Starter
  - (a) Beech 35-369005 (Model 45) 19 lb. (+42)
  - (b) Bendix 756-10 or 756-22 (Models A45, D45) 19 lb. (+44)
  - (c) 24 volt Prestolite MHJ4002 or Teledyne-Continental Motors 634433  
 (A45, T34A, B45) (installed per Beech Kit 45-9002)

105. Oil radiator
- (a) Harrison D20062 (Model 45) 6 lb. (+38)
  - (b) Harrison 8521583 with fittings or replacement core assembly 6 lb. (+38)  
under Harrison P/N 8522827, 8517698 or 8517694 (Models A45, D45)
  - (c) Harrison B528220 (TCM 627392) (installed per Beech Kit 45-9002) 5 lb. (+11)
106. Fuel pump
- (a) Engine driven, Lear Romec RG9080D (Models A45, D45) 1 lb. (+40)
  - (b) Two electric booster, ADEL 29306, 29306-1, 28549, 28549-1, 26900-3, 26900-7, 56880 or Beech 45-921506 or Pesco 122723-120-01 (Model A45). 3 lb. ea. (+76)  
Pressure setting must be adjusted to 11 to 12 psi.
  - (c) One electric booster ADEL 29172 or Pesco 122723-113-01 (Model D45) 3 lb. (+81)
  - (d) Engine driven, Teledyne Continental Motors (Model A45, T34A, B45) 626062, -1, -2, or -3 or 635135-3A1 2 lb. (+39)
  - (e) One electric in-line booster, Duke 4401-00-1 installed per Beech Kit 45-9003. 3 lb. (+86)  
(Model A45, T34A, B45)  
Beech FAA Approved Airplane Flight Manual Supplement 131098 dated January 31, 1973 (Model A45, T34A, B45)
107. Optional engine installation (A45, B45, T34A) (installed per Beech Kit 45-9002)
- (A) Teledyne-Continental Motors IO-470-N (Spec. 12A) (Use actual weight change)  
Engine installed per Beech Dwg. Kit 45-9002.

Note: The below items of equipment are required to be used when Item 107(a) is installed (per Beech Kit 45-9002) and in lieu of the corresponding items listed. Items not replaced and still listed are applicable as required:  
3(a), 3(b), 3(c), 104(c), 105(c), 106(d), 106(e), 306(a), 307(a), 401(d)

#### Landing Gear

201. Two main wheel-brake assemblies 6.50-8 Type III
- (a) Goodyear Model L6.50-8 HBDM 20 lb. (+102)  
Wheel assembly 530869  
Brake assembly 9530367
  - (b) Goodyear Model L6.50-8HBM 20 lb. (+102)  
Wheel assembly 9531161  
Brake assembly 9531138
  - (c) Goodyear Model L6.50-8HBM 20 lb. (+102)  
Wheel assembly 9531319  
Brake assembly 9531281
202. Two main wheel 4 or 6-ply rating tires, 6.50-8 Type III with regular tubes 25 lbs. (+102)
205. One nose wheel, 5.00-5 Type III Goodyear Model L5NBD 4 lb. (+12)
206. One nose wheel 4-ply rating tires 5.00-5 Type III with regular tubes 6 lb. (+12)

#### Electrical Equipment

301. Generators
- (a) 35 a. Delco-Remy P/N 1101880 (Model 45) 18 lb. (+42)
  - (b) 50 a. Eclipse 1345-3-A or 30824-1-A (Model A45) 15 lb. (+32)
  - or (c) 75 a. Eclipse 1298-1 or Beech 45-910203-1 (Models A45, D45) 23 lb. (+31)  
(Eclipse 1298-1 must be modified per Beech Dwg. 45-910203)
302. Batteries
- (a) 12 v. 34 a. hr. with box (Model 45) 42 lb. (+52)
  - (b) 24 v. 24 a. hr. with box (Model A45, D45) 56 lb. (+54)

303. Landing lights  
 (a) Two General Electric 4522 (Model 45) 1 lb. ea. (+77)  
 (b) Two AN3129-4523 (Models A45, D45) 1 lb. ea. (+77)
304. Generator control  
 (a) Delco-Remy 1118325 (Model 45) 2 lb. (+48)  
 (b) Navy 17R21 or Eclipse 1589-1, 1042-16 or 1042-17 (Models A45, D45) 3 lb. (+67)
305. Inverter: AN3499-1 or Eicor X3499-1 (Model A45) 6 lb. ea. (+247)  
 1-100A-115D-7 or E-1616-2 (Model D45) 6 lb. ea. (+ 55)  
 (Required with electric gyro instruments)
306. Alternator  
 (a) 50A. Prestolite 8403 or TCM 634692 (A45, T34A, B45) (Use actual weight change)  
 (Installed per Beech kit 45-9002)
307. Voltage Regulator  
 (a) Beech 60-389017-1 (A45, T34, B45) (installed per Beech Kit 45-9002) 2 lb. (+48)

#### Interior Equipment

401. (a) FAA Approved Airplane Flight Manual dated July 17, 1950 (Model 45).  
 (b) DMCR Approved Airplane Flight Manual dated September 21, 1953, March 18, 1955, August 6, 1956; July 23, 1957 (P/N 45-590177) or December 8, 1961 (P/N 45-590177) (Model A-45).  
 (c) DMCR Approved Airplane Flight Manual dated March 8, 1960 (Model D45).  
 (d) Beech FAA Flight Manual Supplement 131122 dated January 26, 1973, or later.
402. Ballast  
 (a) Beech 45-410374 (15 lb. max.) (Model 45) (Use actual weight change)  
 (b) Beech 45-400200 (12 lb. max) (Model A45) (Use actual weight change)  
 (not to be used when Item 305 installed)

#### Miscellaneous (not listed above)

601. Safe Flight stall warning indicator.
602. Oil pickup tube modification per Beech Dwg. 45-001057 (Model A45 only)  
 Airplane Flight Manual Supplement dated August 14, 1961, required. -1 lb. (+43)

NOTE 1. Current weight and balance report together with list of equipment included in certificated empty weight and loading instructions when necessary must be in each aircraft at the time of original certification.

The certificated empty weight and corresponding c.g. location must include unusable oil and fuel as follows:

- Model 45 - Unusable fuel - 2 lb. (+84) not included in fuel capacity.  
 - Unusable oil - 5 lb. (+36) not included in oil capacity.  
 Model A45 - Unusable fuel - 10 lb. (+84) not included in fuel capacity.  
 - Unusable oil - 3 lb. (+41) not included in oil capacity.  
 Model D45 - Unusable fuel - 5 lb. (+84) not included in fuel capacity.  
 - Unusable oil - 3 lb. (+41) not included in oil capacity.  
 Model A45, T34A, and B45 with Beech Kit 45-9002 installed (Item 107)  
 Unusable fuel - 36 lb. (+84) not included in fuel capacity.  
 Unusable oil - 3 lb. (+21) not included in oil capacity.

NOTE 2. The following placard must be displayed in front of and in clear view of the pilots:

Model 45: "Acrobatic category airplane. Operate in accordance with FAA Approved Flight Manual."

Model A45: "Acrobatic category airplane. Operate in accordance with DMCR Approved Flight Manual."

Model D45: "Utility category airplane. Operate in accordance with DMCR Approved Flight Manual. Intentional spins prohibited. No acrobatic maneuvers approved except those listed in the Airplane Flight Manual."

NOTE 3. Model T-34A and B-45 aircraft manufactured by the Canadian Car and Foundry Company (covered in Section II of this specification) must have a fireproof identification plate bearing the manufacturer's name, model designation, serial number, and type certificate number securely attached to the aft fuselage structure in an accessible location between fuselage stations 240 and 280. Prior to civil certification of T-34A airplanes which have been operated by the military, or B-45 airplanes manufactured for export, they must be modified in accordance with Beech Dwg. 45-000060 (Kit No. 45-322A). Serial numbers eligible, 34-1 through 34-125, and corresponding USAF or RCAF serial numbers are as follows:

MFR's S/N	USAF or RCAF S/N	MFR's S/N	USAF or RCAF S/N	MFR's S/N	USAF or RCAF S/N
34-1	52-8253	34-43	52-8270	34-85	53-4116
34-2	52-8254	34-44	52-8271	34-86	53-4117
34-3	52-8255	34-45	52-8272	34-87	53-4118
34-4	24201	34-46	52-8273	34-88	52-4119
34-5	24202	34-47	52-8274	34-89	53-4120
34-6	24203	34-48	52-8275	34-90	53-4121
34-7	24204	34-49	52-8276	34-91	53-4122
34-8	24205	34-50	52-8277	34-92	53-4123
34-9	24206	34-51	52-8278	34-93	53-4124
34-10	24207	34-52	52-8279	34-94	53-4125
34-11	24208	34-53	52-8280	34-95	53-4126
34-12	24209	34-54	52-8281	34-96	53-4127
34-13	24210	34-55	52-8282	34-97	53-4128
34-14	24211	34-56	52-8283	34-98	53-4129
34-15	24212	34-57	52-8284	34-99	53-4130
34-16	24213	34-58	52-8285	34-100	53-4131
34-17	24214	34-59	52-8286	34-101	53-4132
34-18	24215	34-60	53-4091	34-102	53-4133
34-19	24216	34-61	53-4092	34-103	53-4134
34-20	24217	34-62	53-4093	34-104	53-4135
34-21	24218	34-63	53-4094	34-105	53-4136
34-22	24219	34-64	53-4095	34-106	53-4137
34-23	24220	34-65	53-4096	34-107	53-4138
34-24	24221	34-66	53-4097	34-108	53-4139
34-25	24222	34-67	53-4098	34-109	53-4140
34-26	24223	34-68	53-4099	34-110	53-4141
34-27	24224	34-69	53-4100	34-111	53-4142
34-28	24225	34-70	53-4101	34-112	53-4143
34-29	52-8256	34-71	53-4102	34-113	53-4144
34-30	52-8257	34-72	53-4103	34-114	53-4145
34-31	52-8258	34-73	53-4104	34-115	53-4146
34-32	52-8259	34-74	53-4105	34-116	53-4147
34-33	52-8260	34-75	53-4106	34-117	53-4148
34-34	52-8261	34-76	53-4107	34-118	53-4149
34-35	52-8262	34-77	53-4108	34-119	53-4150
34-36	52-8263	34-78	53-4109	34-120	53-4151
34-37	52-8264	34-79	53-4110	34-121	53-4152
34-38	52-8265	34-80	53-4111	34-122	53-4153
34-39	52-8266	34-81	53-4112	34-123	53-4154
34-40	52-8267	34-82	53-4113	34-124	53-4155
34-41	52-8268	34-83	53-4114	34-125	53-4156
34-42	52-8269	34-84	53-4115		



- NOTE 4. Parks Industries, Ltd., Inc. Kit PI-326 for conversion of military surplus Beech T-34A and T-34B airplanes is an alternate to:
- (a) The Beech Kit 45-322A for the Model T-34A (B-45) airplanes, and
  - (b) The Beech Kit 45-326 for the Model T34B airplanes.

Parks Kit PI-326 is the same as the Beech Kits 45-322A and 45-326, except for the following:

- (a) STC SA5549SW is required in lieu of the rudder aileron interconnect system on the T-34A and T-34B. In accordance with STC SA5549SW the elevator down spring change installed by Beech Kit 45-326 is not used on T-34B airplanes.
- (b) T-34A (B-45) airplanes with PI-326 kits installed require FAA Approved Parks Industries AFM dated December 1, 1983, and titled Beech Model A45 Landplane (T-34A) (B-45) Serial No. G-7 and after, CG-1 and after.
- (c) The T-34B airplanes with PI-326 kits installed require FAA Approved Parks Industries AFM dated December 1, 1983, and titled Beech Model D45 landplane (T-34B) Serial No. BG-1 and after.

Contact Beech Aircraft Corporation as necessary to obtain availability information concerning the drawings and kits which are referenced by this publication.

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